URS OPERATING SERVICES

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December 29, 2008

Gwen Christiansen
Site Assessment Manager
U.S. Environmental Protection Agency, Region 8
Mail Code: 8EPR-B
1595 Wynkoop Street
Denver, Colorado 80202-1129

SUBJECT: START 3, EPA Region 8, Contract No. EP-W-05-050, TDD No. 0811-02
Trip Report, 5600 South 900 East Plume, Murray, Utah.

Dear Ms. Christiansen:

Attached is one copy of the draft trip report of the CERCLA site assessment conducted at the 5600 South 900 East Plume site in Murray, Utah. Field activities were conducted from December 2 through 5, 2008. This document is submitted for your review and approval.

If you have any questions, please call me at 303-291-8241.

Sincerely,

URS OPERATING SERVICES, INC.

Henry Schmelzer
Project Manager

cc: Charles W. Baker/UOS (w/o attachment)
File/UOS

EPA ACTION BLOCK

- ✓ Approved
- ○ Approved, TDD to follow
- ○ Approved as corrected
- ○ Disapproved
- ○ Review with _____
- ○ Original to _____
- ○ Copy to
- ○ Reply envelope enclosed

11/14/08
Date By Gwen Christiansen

TRIP REPORT
5600 SOUTH 900 EAST PLUME
Murray, Salt Lake County, Utah

1.0 INTRODUCTION

URS Operating Services, Inc. (UOS), was tasked by the Environmental Protection Agency (EPA), under the Superfund Technical Assessment and Response Team 3 (START) contract # EP-W-05-050 Technical Direction Document (TDD) No. 0811-02, to provide technical support to the Utah Department of Environmental Quality (UDEQ) in conjunction with a site assessment associated with a potential release to groundwater in Murray, Utah. Specifically, START was tasked to provide geotechnical services to assist in obtaining subsurface soil and groundwater samples from eleven possible sampling locations in the area. Field activities followed the applicable UOS Technical Standard Operating Procedures (TSOPs) and the Emergency Response Program generic Quality Assurance Project Plan (URS Operating Services, Inc. (UOS) 2005; UOS 1999).

The plume is located at 5600 South 900 East in Murray, Salt Lake County, Utah (Figure 1).

Site activities related to this response were conducted on December 2 through 5, 2008, and included the collection of continuous soil cores to approximately 16 feet below ground surface (bgs) and the installation of a temporary well at each location so that the groundwater could be sampled for volatile organic compounds (VOCs) by representatives from UDEQ.

2.0 BACKGROUND

The purpose of this site activity was to assist the UDEQ with sampling in association with a reported possible groundwater contamination plume with dry cleaning solvents.

According to Kim Viehweg, the UDEQ site manager for this project, the 7-Eleven convenience store located at 5585 South 900 East had underground storage tanks associated with a fueling station. These tanks were removed and the shallow groundwater was sampled as part of the removal process. Analysis of the samples submitted to the laboratory found VOCs typically used in the dry cleaning process in the shallow groundwater aquifer. Red Hanger Cleaners had a former operation located at 5555 South 900 East where a Pizza Hut now occupies the building. This is immediately adjacent to the 7-Eleven property on the north side of that property. Red Hanger Cleaners currently operates a facility across 5600 South to

the south of the 7-Eleven property. In order for UDEQ to determine the sources of the VOCs this site assessment was instituted. Of particular concern is the fact that a municipal water supply well is located less than 75 yards to south of the new Red Hanger Cleaners location. Two other municipal water supply wells are also located less than a mile from and downgradient of the site.

In order to facilitate the necessary sampling, UDEQ requested assistance from EPA in providing the geotechnical equipment and operators to obtain subsurface soil and groundwater samples. START was issued a TDD by Gwen Christiansen of EPA in order to fulfill this request. Ten possible sampling locations were identified both upgradient and downgradient of the known location of the contaminants (Figures 2 and 2A). Site access was arranged at each location to allow for the collection of soil and groundwater samples.

3.0 SITE ACTIVITIES

START members Henry Schmelzer and Jake Moersen mobilized with the PowerProbe® to the site from Denver, Colorado, on December 1, 2008. They met Kim Viehweg from UDEQ at the new Red Hanger Cleaners site at 0800 hours on the morning of December 2, 2008. Weather at the time was cloudy with the temperature near 50 degrees F. and no wind. After establishing contact the sampling crew preceded to the first location in a vacant lot on the northwest corner of 5900 South 900 East. This location is upgradient from 5600 South 900 East and was designated as sampling location GW11 (Figure 2A). START used the PowerProbe® to push four-foot-long 2.125-inch diameter drive rods equipped with a cutting shoe to collect continuous soil cores to 12 feet bgs. The soil cores were collected in clear acetate liners. Groundwater was encountered at 7 feet bgs. START cut open each liner to allow the soil core to be viewed and sampled. While Kim Viehweg from UDEQ collected a soil sample from the cores, START installed a temporary well in the borehole. START placed a capped five-foot -long section of slotted white plastic (poly vinyl chloride (PVC)) screen that had been threaded onto two five-foot sections of PVC riser into the center of the drive rod that had remained in the ground. START then pulled the drive rods out of the ground allowing the PVC screen and blank to remain in place. The soil was allowed to collapse back into the borehole against the slotted screen. START then placed an approximately 14-foot-long section of 0.25-inch diameter polyethylene tubing into the PVC well. An approximately two-foot-long section of flexible Tygon tubing was placed in position around the rotating head of a peristaltic sampling pump and the two open ends of the Tygon and polyethylene tubing were connected using a barbed 0.25-inch diameter fitting. The peristaltic pump was turned on and the groundwater was allowed to flow from the PVC well into a five-gallon plastic bucket. Approximately three gallons of groundwater

were purged before the groundwater had a significant reduction in the amount of sediment in it and was ready to be sampled for VOCs by Kim Viehweg. Once the groundwater sample was collected the borehole was abandoned by pulling the PVC well material from the ground and filling in the remaining opening with bentonite chips up to the ground surface. Dedicated PVC and tubing were used at each sampling location

The next sampling location (GW01) was adjacent to the upgradient municipal well designated as the New Howe well. The same procedures were initiated here as previously indicated. The soil core was collected from ground surface to 16 feet bgs and groundwater was indicated at approximately 10 feet bgs. The soil sample was collected and a temporary well was installed but it produced very little water. It was determined that the crew would abandon this temporary well and then try again. However, when the crew began to set up to install another well the hydraulic pump on the PowerProbe® failed. START would not be able to use the PowerProbe® until it was fixed and since the system is a custom configuration, it would take several days or weeks to get it working again.

Kim Viehweg wanted to get the project completed in 2008 and while the weather was still good. In order to meet these needs START made arrangements to obtain the Geoprobe®, its other direct push mobile equipment, that was temporarily stationed at another project site in Billings, Montana, and bring it to this site to complete the work. The two START members flew from Salt Lake City to Billings early in the morning on December 3, 2008, picked up the Geoprobe® and other equipment that might be needed to operate it, and drove it back to this site for operations to begin again on December 4, 2008.

On December 4, 2008, START returned to the GW01 sampling location at 0800 hours to collect the groundwater sample. The subsurface soil sample had been collected on December 1, 2008, before the PowerProbe® failed. In this instance START utilized a retractable stainless steel screen mounted inside a steel sheath equipped with an expendable tip to push to 20 feet bgs. Once there the drive rod string was pulled up 4 feet. This allowed the sheath to be retracted 4 feet and exposed the stainless steel screen to the groundwater formation. Once this was done the same groundwater sampling procedure using the polyethylene and Tygon tubing was used to collect the sample. Groundwater was still difficult to obtain at this location and a small check valve was installed on the down hole end of the poly tubing. The tubing was the quickly inserted and retracted inside of the drive rods to essentially hand pump the groundwater up the tubing. Once the groundwater was flowing out of the upper end of the tubing, it was attached to the Tygon tubing and the peristaltic pump to complete the purging of the temporary well and the

groundwater sample was collected. Approximately three gallons of water was purged from the well before sampling occurred at 0920 hours.

START then moved to sample location GW03 on the Jiffy Lube property. The sample location was moved from the proposed location in the grassy area on the north side of the property to the northeast corner of the rear parking lot because of the location of utilities and on-site parking for the business. This also put the location closer to any potential source of contamination from the new Red Hanger Cleaners location adjacent to this property on the east side. START pushed to 16 feet bgs at this location and water was indicated at 10 feet bgs. START used the previously described standard sampling methods to help UDEQ obtain the subsurface soil and groundwater samples. When this borehole was abandoned gravel was used to fill in the borehole to 6 feet bgs with the remaining portion filled with bentonite. The top 4 inches of the borehole was filled with asphalt patch and compacted to a smooth surface to match the parking lot.

Sample location GW02 was on the new Red Hanger Cleaners property. Kim Viehweg informed START that the consent agreement with the property owners only allowed sampling to go to 8 feet bgs. She then contacted the property owner and he consented to allow subsurface sampling to 10 feet bgs. START pushed to 10 feet bgs and groundwater was indicated at 9 feet bgs. The sampling location was on the west side of the grassy area in the front of the property. START installed the temporary groundwater sampling well using 3 feet of slotted screen and two sections of 5-foot-long PVC riser. Once the samples were collected the borehole was abandoned by filling in the hole with bentonite.

START then moved to the 7-Eleven convenience store and completed two sampling locations. Location GW05 was at the edge of the concrete pad for the dumpster on the southeast corner of the property. Sample location GW04 was at the southwest corner of the parking lot. At both locations the drive rod string was pushed to 16 feet bgs and water was indicated at 10 feet bgs.

The GW05 location was completed after two attempts. The first attempt went to 8 feet bgs. The acetate core liner had no soil recovery in the 4-feet to 8-feet bgs section due to a large rock plugging the cutting shoe. The entire drive string was withdrawn from this initial borehole and another borehole was created approximately three feet south of the initial one. There were no problems with this borehole and all samples were collected from this location. Both boreholes were filled with bentonite and the last 4 inches were filled in with asphalt patch and compacted to a smooth surface.

The soil core collected at GW04 from 6 to 10 feet bgs depth was black and had a petroleum odor. This sample location may have been at the former underground storage tanks location or was immediately downgradient from it. UDEQ collected the soil sample from this interval. After activities were complete at this location START decontaminated all of the rods that had been used for sampling. This completed operations for the day.

START returned to the site on December 5, 2008, to complete the remaining sampling. START began the day at location GW08 at the Chase Bank property. A new hire with the Utah Department of Health was on site to observe the Geoprobe® operations and learn about site investigations. He was given an orientation to Geoprobe® operations as well as a site safety briefing before START began work for the day. The drive rod string was pushed to 14 feet bgs with water indicated at 8 feet bgs. Once sampling was completed the borehole was filled with bentonite and the top 4 inches was filled in with asphalt patch and compacted to a smooth surface to blend in with the other asphalt.

START then moved to the 7-Eleven property to complete the remaining two locations. GW06 was located on the north edge of the parking lot and GW07 was in the grassy area north of the main store building. At both locations the drive rod string was pushed to 14 feet bgs with water indicated at 8 feet bgs. After sampling the borehole at GW06 was filled in with bentonite with the last 4 inches filled with asphalt patch that was compacted. The borehole at GW07 was filled in completely with bentonite.

START moved to sample location GW09 adjacent to the municipal drinking water well location designated as the Highland Dairy well. This was located at the top of a hill overlooking the drainage for Cottonwood Creek to the west. START began its initial borehole location at the top of the hill on the north side of the water storage tank. START got to 19 feet bgs and the got refusal without any indication of groundwater. START then moved downhill to the area next to the sidewalk and the driveway into the property. This time the drive rod string was pushed to 24 feet bgs to improve the likelihood of obtaining sufficient water to sample. Groundwater was indicated at 12 feet bgs. The well was constructed using 10 feet of slotted screen with PVC riser for the remaining portion. START had no problem obtaining enough groundwater to collect the sample and a blind duplicate sample from this location. Once sampling was completed both boreholes were filled with bentonite to the ground surface.

START then moved to the last sampling location, GW10 was located adjacent to another municipal well designated as the 5th East Well #3. This site was located next to Cottonwood Creek. At this location START pushed the drive rod string to just 12 feet bgs with groundwater indicated at 6 feet bgs. The

borehole was located just off of the sidewalk and the driveway to the well house on the southeast corner of the property. Once the samples were collected the borehole was filled in with bentonite to the ground surface. START then decontaminated all of the equipment that had been used to collect the samples and prepared to return the Geoprobe® to Billings, Montana, and drop off the PowerProbe® for repair at the manufacturer's facility in American Falls, Idaho, the following day.

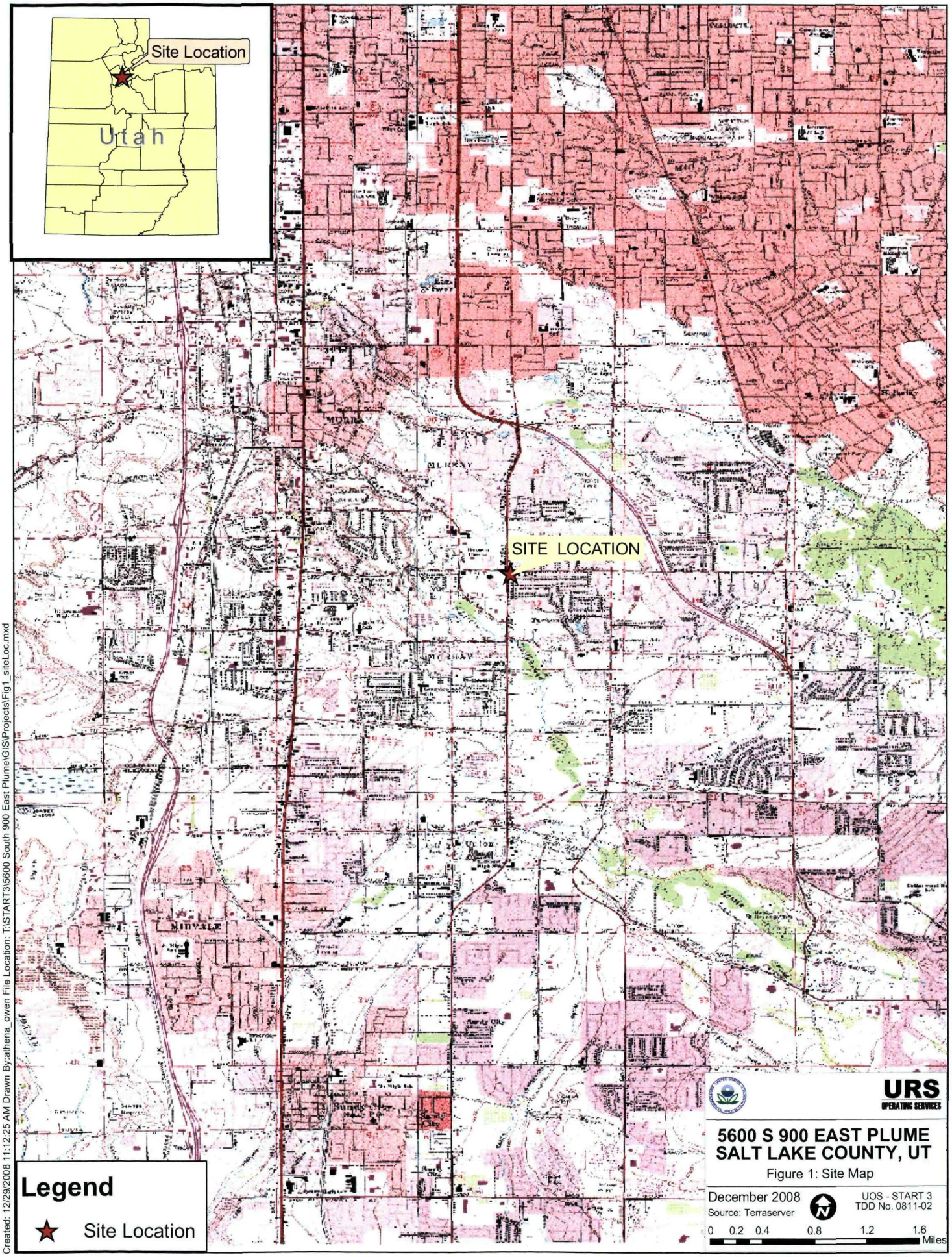
On December 6, 2008, START demobilized from the site by driving the PowerProbe® to the manufacturer's facility near Pocatello, Idaho, and then continued on to return the Geoprobe® to its next scheduled site in Billings, Montana.

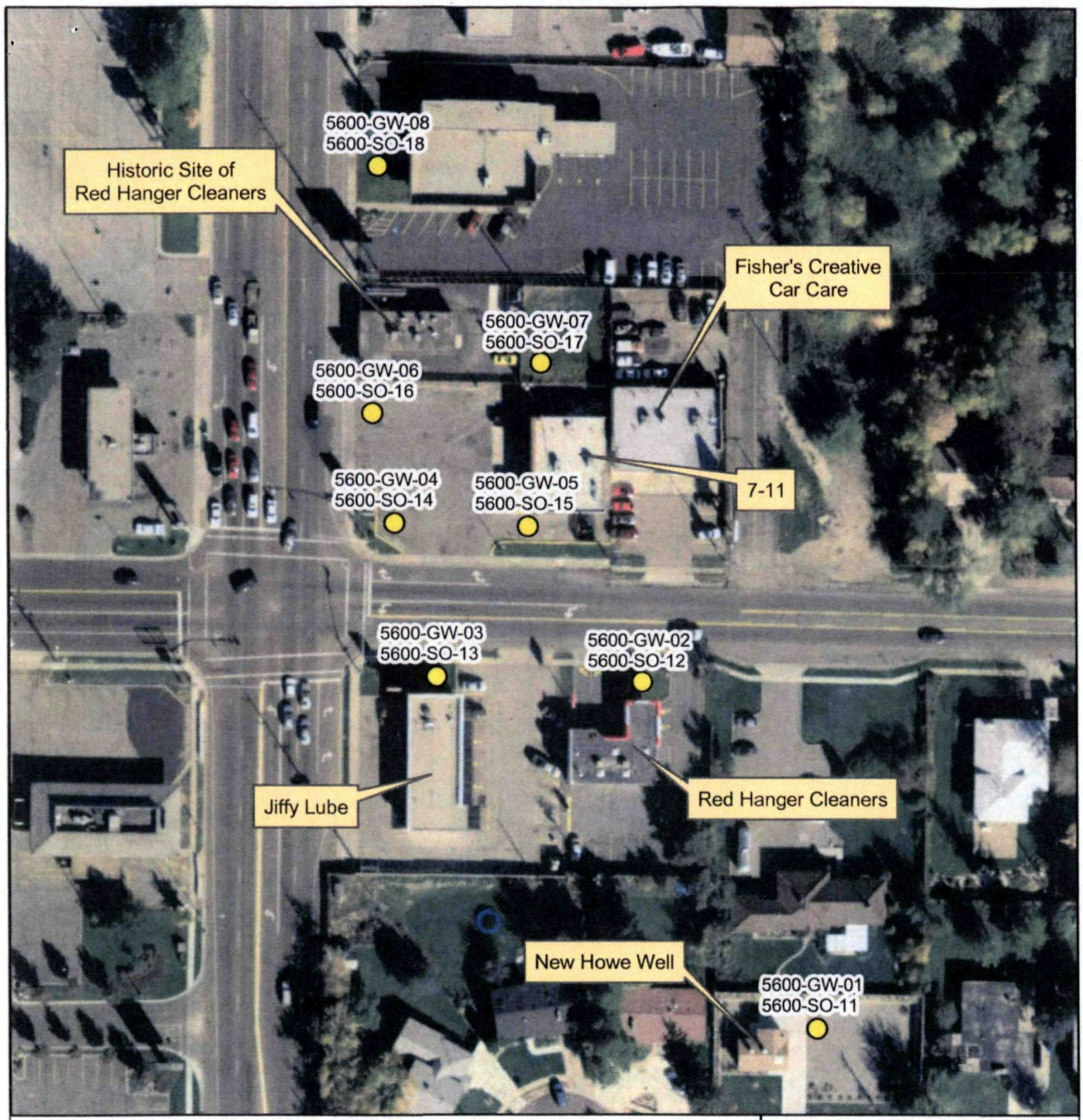
Site photos are provided in Appendix A.

4.0 SAMPLING AND ANALYSIS

START was tasked to provide geotechnical assistance to the UDEQ in association with this site investigation. START provided this service with UDEQ collecting the samples and submitting them to an EPA contract laboratory for analysis. START collected no samples for this project.

However, the laboratories used under the EPA contract program do not perform analyses on oily samples such as the ones that were collected at GW04. START was contacted by the EPA task monitor to arrange for the analysis of one groundwater sample for total petroleum hydrocarbons under this TDD. One 40 milliliter glass container preserved with hydrochloric acid was submitted to the Test America Laboratory in Arvada, Colorado. Due to the limited quantity submitted and the preservation with the acid, the only actual analysis that could be performed on the sample was for gasoline range organics (GRO). The sample result was submitted to the EPA task monitor under a separate cover to be forwarded on to the UDEQ representative.


Site Location
Utah
SITE LOCATION
Legend
Site Location
URS
OPERATING SERVICES
5600 S 900 EAST PLUME
SALT LAKE COUNTY, UT
Figure 1: Site Map
December 2008
Source: Terraserver
UOS - START 3
TDD No. 0811-02
0 0.2 0.4 0.8 1.2 1.6
Miles
Created: 12/29/2008 11:12:25 AM Drawn By:athena_owen File Location: T:\START3\5600 South 900 East Plume\GIS\Projects\Fig1_siteLoc.mxd



0 45 90 180 270 360 Feet

Utah Department of Environmental Quality
Division of Environmental Response and Remediation

Legend

Proposed Sample Locations

5600-GW-01
5600-SO-11
Ground water and soil boring locations

N
W E
S

Aerial photograph obtained from the State of Utah GIS database, 2006

Figure 2
Site Map

5600 South 900 East Plume
Salt Lake County, Utah

by: Kim Viehweg date: 4/11/08

0 0.1 0.2 0.4 0.6 Miles

Utah Department of Environmental Quality
Division of Environmental Response and Remediation

Legend

Proposed Sample Locations

5600-GW-11
5600-SO-21
Ground water and soil boring locations

N
W E
S

Aerial photograph obtained from the State of Utah GIS database, 2006

Figure 2-A
Site Map

5600 South 900 East Plume
Salt Lake County, Utah

by: Kim Viehweg date: 4/11/08

APPENDIX A

Photolog

PHOTO 1
START using the PowerProbe® to collect soil and groundwater samples at the New Home municipal well location (GW01) at 942 East 5650 South in Murray, Utah.

PHOTO 2
START using the Geoprobe® to collect soil and groundwater samples at the GW03 location in the northeast corner of the Jiffy Lube property at 5601 South 900 East in Murray, Utah.

PHOTO 3
START purging the temporary groundwater monitoring well (GW02) at the new Red Hanger Cleaners location at 926 East 5600 South in Murray, Utah.

PHOTO 4
Sample location for GW05 in the southeast corner of the 7-Eleven property at 5585 South 900 East in Murray, Utah. Pizza Hut in the background is the former location of the Red Hanger Cleaners.

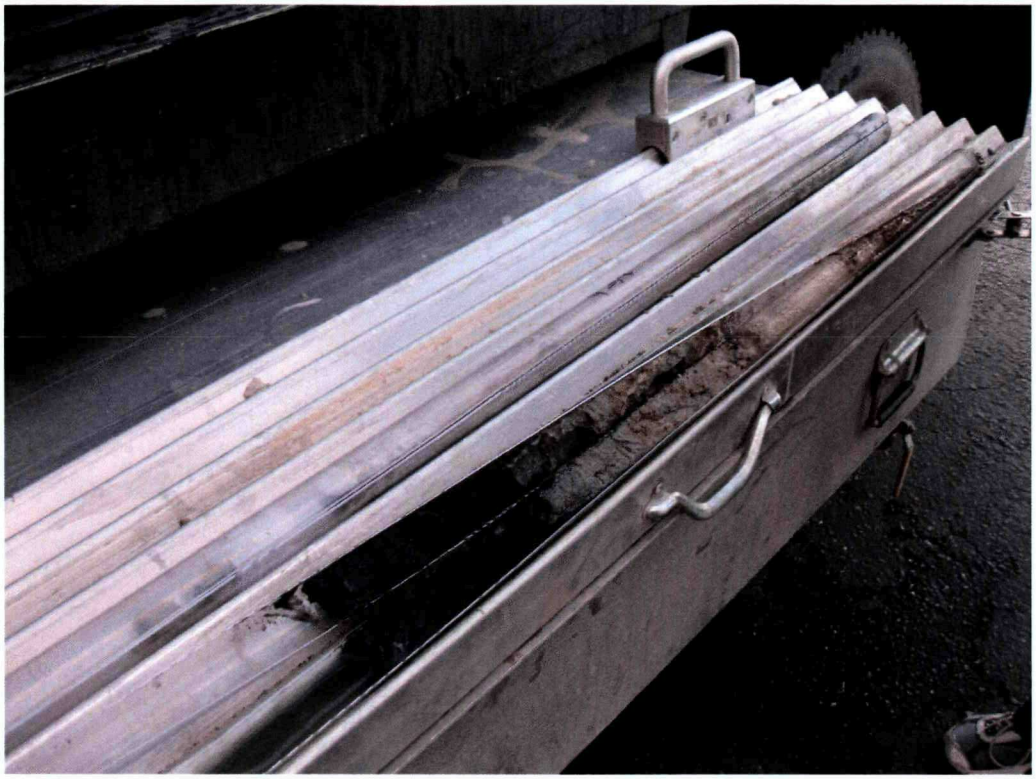


PHOTO 5
Potentially petroleum-contaminated soil from a core collected from approximately 6 to 10 feet below Ground surface at the GW04 location in the southwest corner of the parking lot at 7-Eleven. 7-Eleven has had USTs removed. Groundwater sampled at part of that removal had dry cleaning solvent in it.

PHOTO 6
START member using the Geoprobe® to collect soil and groundwater samples at location GW10 at the municipal well #3 at 5th East in Murray, Utah.